

Subaru EJ20 Oil Gallery Access

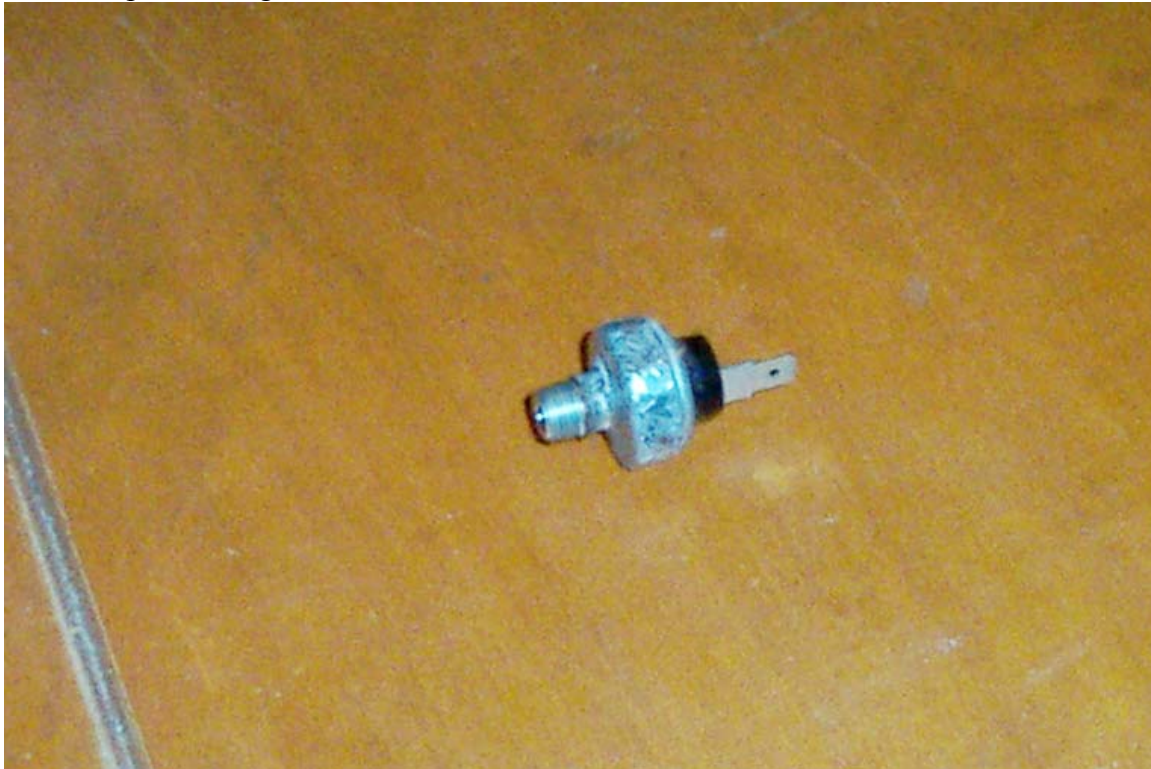
The oil filter on the Subaru EJ20 motor sits rather low in the USDM WRX in large part because of the stock oil cooler. Use of a sandwich adapter for oil temperature or pressure sensors will lower the filter further as much as an inch or more exposing it to potential hazards. Additionally, the oil flows through the cooler prior to a sandwich adapter which will give lower temperature readings than the oil is actually experiencing within the motor.

While oil drain plug mounts eliminate both of these issues under normal usage, however when the motor is pushed hard the oil in the pan still does not reflect the temperature the oil experiences while in doing its job in the motor. Many drivers during spirited driving or racing are surprised by the temperatures their oil reaches in the oil gallery when measured from one of the locations discussed below compared to the temperatures they had previously seen in the oil pan.

Fortunately, the Subaru EJ20 motor block has two access locations to the oil gallery. The front oil gallery access is located just behind and to the right (orientation to the right/left sides of the vehicle) and underneath the alternator. The rear oil gallery access is located just in front and below the right side of the intercooler, near the PCV valve. I can think of no reason for the access Subaru has provided to the oil gallery other than for oil pressure and temperature monitoring.

The front gallery access is used by the stock oil pressure dash light switch. This switch is a normally closed grounding switch that opens and breaks the ground when it senses as little as 2.5 psi of oil pressure. The switch is installed in an adapter in the block that has a 1/8 BSPT – 28 (equivalent to the Japanese 1/8 PT thread) female thread in the center of it.

Stock oil pressure light switch:



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Note that the wrench size for this switch is very large – I think 24mm and the outer shell is a soft metal material. I do not have a wrench or socket that size but I was able to remove with sliding pliers and a bit of patience.

The rear oil gallery access is not used from the factory and has a solid gallery plug in it.

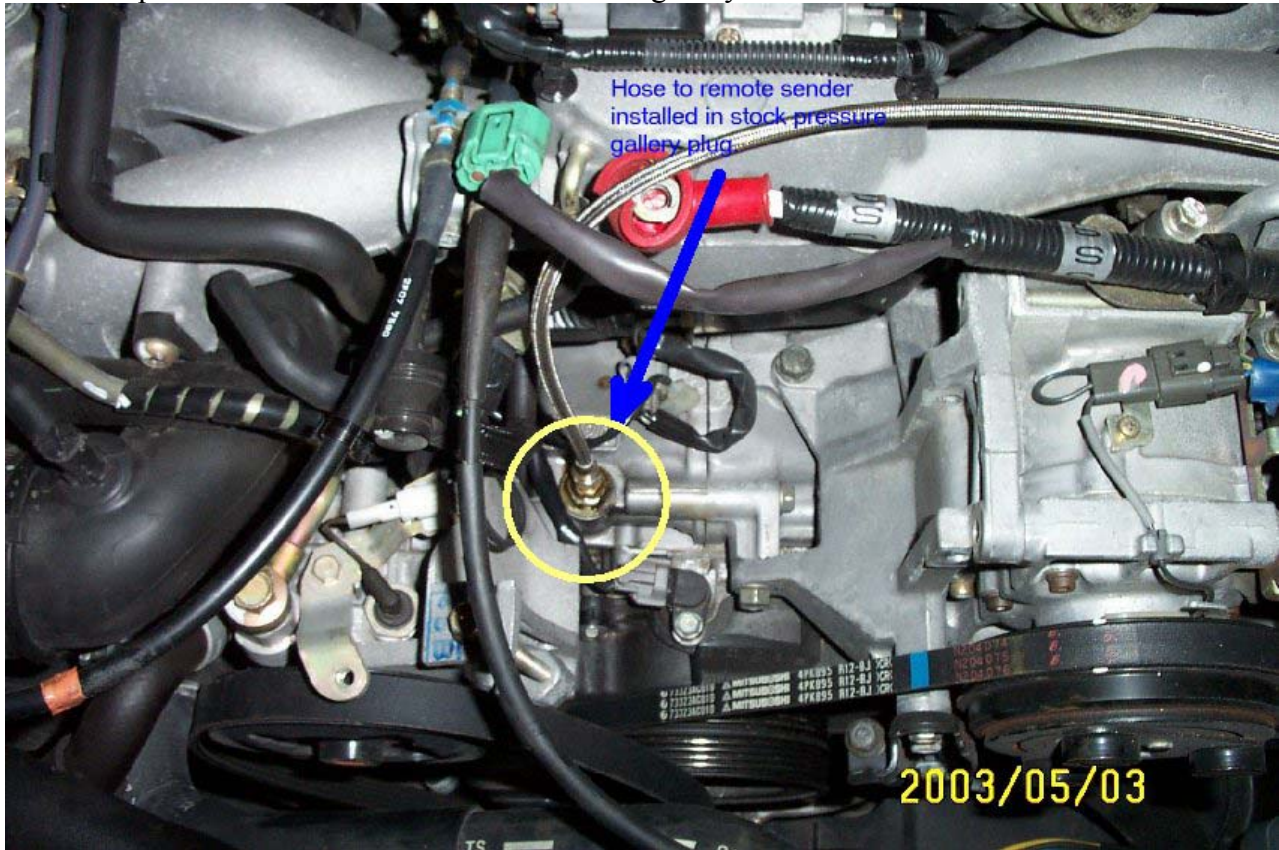
Stock rear solid oil gallery plug:



The solid oil gallery plug can be replaced by Subaru part number 11024AA210 which is the same gallery plug (with 1/8 BSPT female threading in the center) that is in the front oil gallery access with the oil pressure light switch in it.

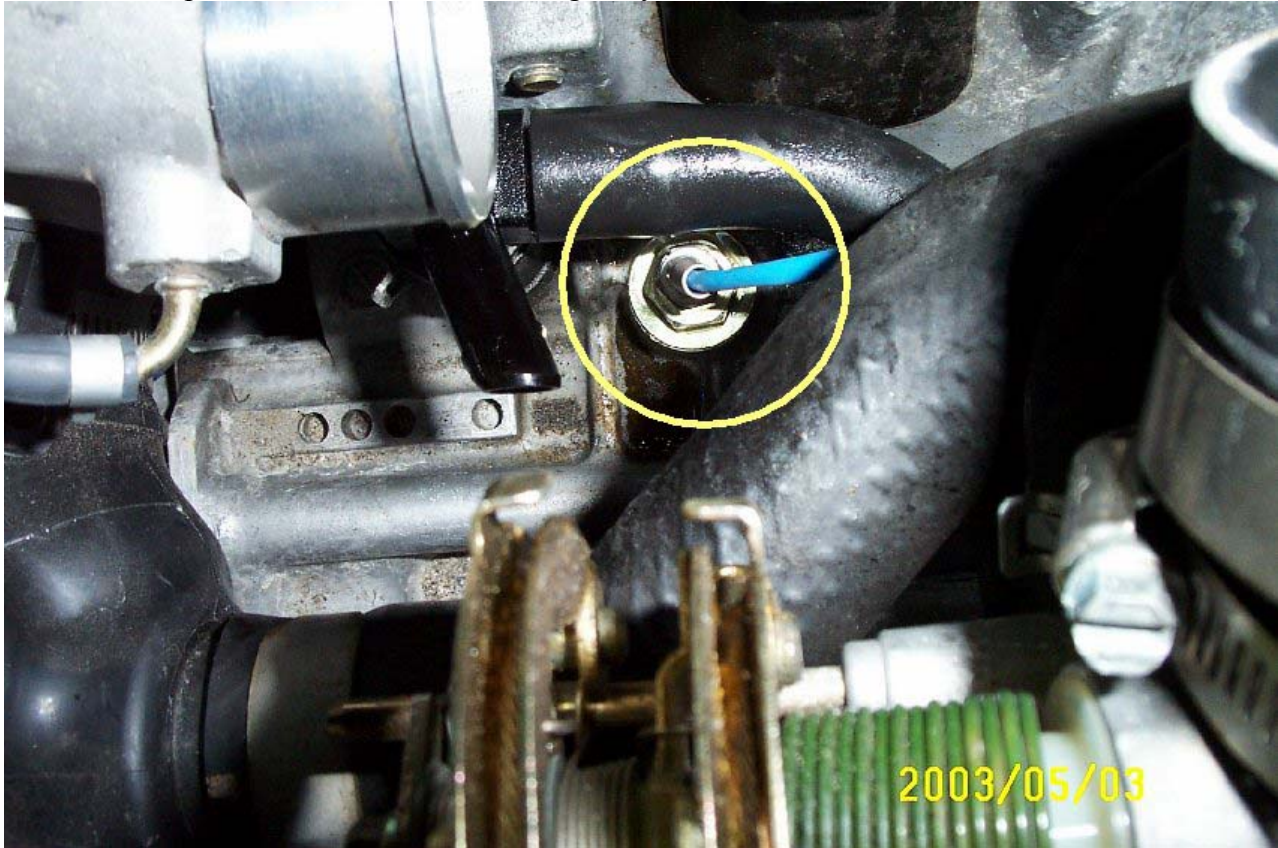
These two locations using the Subaru parts are the perfect solution for those who want to monitor oil pressure and/or temperature using aftermarket gauges.

Omori oil pressure remote mount hose in front oil gallery:



The actual sensor is under the left hand (driver) side intercooler bracket providing easy routing of wiring through the firewall in the same location used by the Subaru sports gauge pack.

Omori oil temperature sensor in the rear oil gallery:



To the left of the sensor is the compressor outlet of the turbo and the PCV valve (with one hose removed) immediately below the turbo.